

Application No. 10/643,136
Amendment dated June 15, 2006
Reply to Office Action of November 14, 2005

Remarks

It is requested that the Examiner enter the above amendment, which simplifies the issues by making all other claims dependent on claim 36 and corrects typographical and antecedent errors in the last amendment that added .

The Examiner has withdrawn the previous rejection, which was based on Gung et al. U.S. Patent Application Publication No. 2005/0199491 as the primary reference, considered alone or in combination with secondary references. The rejection was replaced with rejections based on Drewery U.S. Patent No. 6,287,435 as the primary reference, considered in combination with several secondary references.

It should be noted that the new Drewery et al. U.S. Patent No. 6,287,435 is a parent application to the previously cited Drewery et al. U.S. Patent Application Pub. No. 2002/0104751 and contains nothing of significance that is not disclosed in the previously applied Drewery et al. reference. Further, the newly cited Drewery et al. patent is identified as "related" in the first sentence of the present application.

The Examiner notes that:

"Drewery et al. do not teach an upper source shield (and its shape features) configured to surround a material source and energy source in a removable top portion of a cooled and grounded chamber wall of a semiconductor processing apparatus for protecting said top portion from deposition."

Indeed, applicant is claiming an upper source shield that is in fact configured to surround a material source and energy source in a removable top portion of a cooled and grounded chamber wall of a semiconductor processing apparatus of the type described by Drewery et al. for protecting said top portion from deposition.

The rejections resort to assembling various combinations of from three to five references to demonstrate that each claimed detail of applicants' shield can be found in some other apparatus. But the only motivation to combine features recited in the present claims is the teaching of applicants in the present application. This can be demonstrated by considering a simplified version of claim 36 as follows::

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- 1) Claimed is upper source shield configured to surround a material source and energy source in a removable top portion of a cooled and grounded chamber wall of a semiconductor processing apparatus for protecting said top portion from deposition.
- 2) The shield is an annular element that includes a top ring, a sloped ring, and a bottom ring, each ring having an inner surface and an outer surface. The sloped ring is between the top ring and the bottom ring.
- 3) The shield has a mounting element at the outer surface of the sloped ring, which is configured to form intimate thermal contact and electrical contact with a removable top portion of the cooled and grounded chamber wall.

This structure is proposed to limit particle flaking when thermally cycled in the recited type of processing apparatus.

So if compare two combinations: a) applicants' claim 36 shield combined with Drewery et al., and b) the Gopalraja et al. shield combined with Drewery et al., we see that Gapalraja et al. shows a shield 164 having mounting structure 251 that projects from a top ring 255, not the outer surface a sloped ring.. Further, Miller et al. does not teach mounting structure at the outer surface of a sloped shield ring, as claimed by applicant. The additional reference of Miller et al. shows a shield 64 that is also supported at its top.

Thus, no prima facie case of obviousness is made by the combination of references applied in rejecting claim 36. Therefore, it is not necessary to consider the other surfaces recited in the claim.

Further, the specification describes a need to minimize particle contamination, primarily due to thermal cycling. To meet these needs, the locations of mounting structure and intimate thermal contact areas are important. Nothing in the references suggests that one should use a mounting element extending from the outside of a sloped ring for this purpose.

For the reasons stated above, it is respectfully submitted that the application, as amended, is allowable. Accordingly, an early allowance is requested.

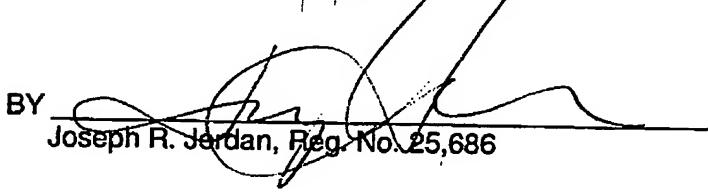
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Applicants do not believe that any additional fees are due in connection with this submission. However, if such extension is due or any other fees are necessary, the Commissioner may consider this to be a request for such and charge any necessary fees to deposit account 23-3000.

Respectfully submitted,

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